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ABSTRACT

This compilation of abstracts represents 39 projects that were funded by the State Council of Higher Education for Virginia under Adapter Grants (which involve experimentation with instructional methods or techniques) or Developer Grants (which involve the implementation of a uniquely innovative teaching method or other instructional procedure). These abstracts represent a wide variety of disciplines including art, mathematics, education, psychology, nursing, English, English as a second language, technical writing, chemistry, biology, and history. Among the instructional methods represented are clinical simulations, the instructional management model, a verbal expression laboratory, computer-based approaches, individualized instruction, coordinated internships, workshops, distance learning, self-paced instruction, writing-across the curriculum, and mastery instructional systems. (EJV)

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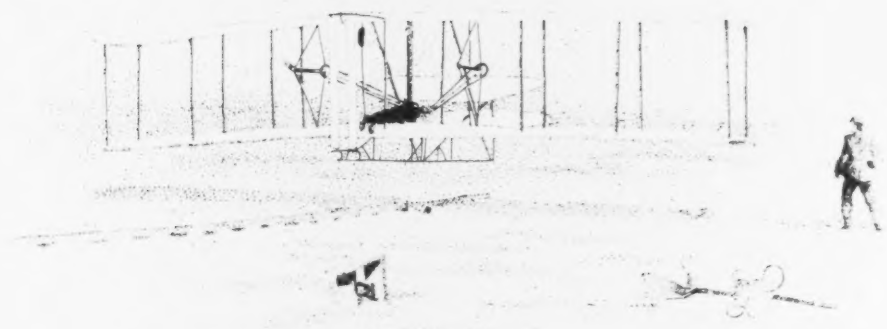
CATALOG OF EXEMPLARY PROJECTS



To promote quality and excellence in teaching and learning.

1984-85

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INTRODUCTION

THE VIRGINIA INSTITUTE FOR INSTRUCTIONAL EXCELLENCE is honored to distribute its first compilation of abstracts. These projects were funded for the 1984-85 fiscal year under the grant which was provided by the State Council of Higher Education for Viginia.

These abstracts represent proposals for Adapter Grants which involved experimentation with instructional methods or techniques and for Developer Grants which involved the implementation of a uniquely innovative teaching method or other instructional procedure.

The abstracts published in this document are indicative of the hard work and creativity of many of our faculty and staff members throughout the Virginia Community College System. The Proposal Review Committee wishes to thank each individual who took the time and effort to submit a proposal. It is hoped that with the publication of this compilation many more ideas exemplary of quality instruction will be developed, implemented, and more importantly, shared with others so that the VCCS may continue its tradition of INSTRUCTIONAL EXCELLENCE AND INNOVATION.

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MEDICATION ADMINISTRATION CLINICAL SIMULATION

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ABSTRACT

One of the skills which new nurses are asked to perform almost immediately after graduation is medication administration to a large group of patients. Group medication administration is a complex process which requires mastery of both cognitive and psychomotor skills.

Prior to implementation of the new teaching strategy, students learned to administer group medications during a "medication rotation" clinical day. During this experience, the student prepared and administered medications to a group of patients on a hospital unit during a six hour period. The student prepared for the medication rotation by obtaining in advance a list of the medications to be given. The student learned the actions, uses, side effects, and nursing implications of each drug as well as reviewed the different medication administration techniques before the scheduled clinical day.

There were several disadvantages of the medication rotation which hampered its usefulness as a learning tool. Environmental factors such as noise level and patient availability affected student learning and could not be controlled by the instructor. A rigid time schedule had to be followed on the hospital unit, leaving little time to evaluate the student's knowledge and provide feedback of his/her performance. Because of the need to safeguard patient's safety, the instructor was unable to allow the student to learn by trial and error. Lastly, the student's preparatory work was often negated by the frequency with which medications were changed and patients admitted and discharged.

A new teaching strategy, the Medication Administration Clinical Simulation, was developed in order to provide students with a group medication administration experience in which cognitive and psychomotor learning is enhanced by a less stressful and better controlled, yet realistic atmosphere. The simulation consists of a taped nursing report, preparation and administration of a wide variety of medications to six simulated patients, and a student-instructor evaluation conference. Student preparation for the classroom laboratory experience is the same as that for the clinical rotation.

The clinical simulation has a number of advantages. The more controlled environment allows the instructor to predetermine the number, type and administration route of the medications given. Also, a quiet setting free of distractions is provided. The freedom to not adhere to a rigid time schedule allows the instructor ample time to evaluate student preparation and knowledge, determine learning needs, and provide detailed feedback. The student may work at his/her own pace when asked to problem-solve and is able to make errors without harming patients. Finally, the clinical simulation can be used both as a teaching and an evaluation tool.

Cognitive and psychomotor objectives were developed for the simulation. Supplies such as "drugs" (inexpensive medication such as aspirin and vitamins), patient "charts," and intravenous tubing were ordered from a medical supply company and then placed in the nursing lab's medication cart. Orientation handouts for students and faculty were prepared and evaluation tools developed. When preparation of the clinical simulation was complete, 40 second year nursing students were scheduled to participate in the medication lab.

Eleven of the students who completed the clinical simulation during the first quarter of its use were identified as needing remedial work in medication administration. Recognition of common student weaknesses, particularly that of intravenous medication administration, has resulted in plans to place more emphasis on these problem areas throughout the nursing program.

Both student and faculty input about simulation has been favorable. Factors which students have identified as positive include the opportunity to practice medication administration in a realistic setting, the amount of learning obtained, the ability to make mistakes without harming patients, and the provision of immediate feedback from the instructor. Factors identified as negative were the anxiety produced by the experience and the limited time period in which the simulation had to be completed.

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COURSE DEVELOPMENT AND DELIVERY STRATEGY

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ABSTRACT

During the 1983-84 academic year, Southwest Virginia Community College developed a training model to address the needs of teachers for training in computer literacy as required by the Virginia Department of Education. The course, called Educational Computer Applications, involves a class which can be individually tailored to the needs of three specific groups: (1) Elementary teachers; (2) Secondary teachers; and (3) School administrators.

The five credit, fifteen-week course prepares educators to use computers as instructional and management tools. This enables teachers to incorporate the use of computers into their instructional planning by providing the necessary knowledge and skills to design unit/lesson plans, evaluate and select appropriate materials, plan effective utilization strategies, and evalute the results of computer activities.

The course was designed to assist educators to (1) learn about computers; (2) use computers to teach; and (3) teach students to use computers.

At least 50% of the instructional content is directed toward the use of the computer as a teaching and management tool. In addition, no more than 25% of the time during the course is set aside for the teaching of programming skills. The model has been deemed very effective and relevant to the needs of teachers.

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AN INSTRUCTIONAL MANAGEMENT MODEL FOR ENGLISH 117 (ADVANCED READING)

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ABSTRACT

English 117 (Advanced Reading) and English 111 are co-requisites at Southwest Virginia Community College. This situation calls for an instructional management strategy. While the work load of teaching composition is shared among several instructors, no more than two instructors have the responsibility of teaching advanced reading skills to all English 111 students in addition to other students who enroll in the course. The management strategy, now used, was developed over a period of years.

In the fall quarter English 117 classes are very large. It is not uncommon for a class to have 40 to 50 students--thus, the necessity for having good management in the classroom. Basically, the management strategy is divided into three categories: pre-instruction activities, organized structure for teaching content, and evaluation.

These activities may be described briefly as PRE—INSTRUCTION ACTIVITIES: The first two class periods a battery of diagnostic tests are administered (attachment A). On the third class period, students are given the course out-line which includes the competencies required for successful completion of English 117 as demonstrated in the chart on the following page.

Students have their scores in each area and can determine what areas they must give attention to. The instructor, at this time, discusses each category and explains what the

Grade	Comprehension Nelson Denny Reading Tests Percentile	Vocabulary Nelson Denny Reading Tests Percentile	Word Analysis	Problem Solving	Spelling	Pronun-ciation
C	50	35	80	70	90	100
B	60	45	90	80	100	100
A	70	55	90	90	100	100
R	CONTINUED WORK					

students must do to attain proficiency in each of the areas and how each of these skills relate to their study in other courses (especially English Composition). The main objective is to help them understand that the tests are indicative only and that their scores will improve greatly if they work through the material assigned (list of materials attached). If students have all the scores for an A grade, then they have the option of withdrawing from the class. If students are in need of further explanation of expectations, they may talk privately with the instructor or a tutor assigned to the class. It is important that they understand what they are to do. This leads to the second phase of management--ORGANIZING FOR LEARNING.

For the best results, I have found that co-operation is the key--that is, students, tutors, and instructor working together and using individualized, small group, and at times, large group instruction. If a tutor does not feel comfortable with a teaching problem, then he or she refers it to the instructor who is moving about the class or working with an individual or small group. While students are urged to begin with problem solving material (*Problem Solving and Comprehension,* by Arthur Whimbey and Jack Lockhead), they are permitted to begin work on the other tasks.

EVALUATION is a continuous process in the class. If a student is working on exercises in any area and makes an error, immediate feedback is given. Attempts are made to guide the student in the right direction to correct his/her own error. This relates to any of the areas of study. As the student completes the assigned work in any area he/she requests to take the final test for that specific skill. In this way, students are not overwhelmed by a complete battery of final tests. Of course, there are sufficient opportunities for the instructor to check application of any one skill as the student continues to work through assignments.

The program has been very effective. It has made a difference for many students in any course requiring problem solving and interpretation. One of the major factors, however, responsible for the success of the program has been the support of the administration, many faculty members, and especially that of the English Department. Then, too, many students opt to take the course because they have been out of the formal education setting for a few years. On the other hand, if some students were not required to take the course, they probably would not do so. Yet, the time of accountability is with us, and students must be able to read analytically; must have problem solving and thinking skills; and, must be able to spell and use words intelligently if they are to compete either in the job market or in higher education.

Expectations of this course are that students gain a specific proficiency level of the designated skills. In this aspect a summary of grades for the fall quarter reflects that 83 percent of the students made a C or better in my classes.

I will be happy to go into more detail about the program with those who might be interested in the total program or just a part of it. I am submitting my course outline, the packet students use for word analysis skills, excerpts describing how I related word analysis to composition, and a bibliography of materials used in English 117.

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USES FOR A WEEKEND SEMINAR FORMAT

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ABSTRACT

Tidewater Community College lists in its catalogue two courses which often have specific appeal for employed people who work at varying job schedules. These two, Sociology 266--Death and Society--and Human Services 201--Gerontology I--are often felt to be valuable to such varied people as nurses, police officers, clergy persons, social work students and lay people who have some personal interest in one or both of these areas. When these classes are scheduled at ordinary hours, during the morning or afternoon or one evening each week, inevitably some of these people will find it impossible to attend.

In addition, when one of the primary purposes of a class is attitudinal change, a fifty or seventy-five minute class or even a three hour evening session is often too short. As attitudes begin to be openly expressed and ideas to be questioned, it is time for the class period to end and the work must be redone at the beginning of most, if not all, of the subsequent class meetings.

A weekend workshop format resolves both of these problems. Many studetns can arrange their schedules to allow for two Friday evening and two Saturdays of class attendance. The concentrated format of fifteen class hours on one weekend, followed by two weeks to complete assignments, followed by another fifteen class hours concentrated on Friday and Saturday allows the group process to develop and in-depth exploration of ideas, values and attitudes to occur.

These workshops demand a great deal of preparation. A schedule must be developed that will cover the material, involve the students in their own learning, vary the pace, and keep students who have already coped with a full day on the job alert and interested. This schedule, together with assignments for the entire seminar, must be mailed to the students several weeks before the workshop begins so that they will have had time to begin their reading and come prepared to participate in discussion.

An informal group-oriented setting seems to work best. As soon as a student has registered, I send them a packet of materials which includes the schedule, the title of the textbook and where and when it may be purchased, and any handouts to be read before the meeting. This packet also includes a letter advising them that we will work without a break on both Friday and Saturday, that coffee and tea will be provided and snacks to share may be brought, that each must bring his own brown bag lunch on Saturday and that informal dress is appropriate as those students who wish may spend some of the workgroup time outdoors on Saturday.

Copies of the scheduled activities for both weekend seminar classes are attached. Some activities--i.e. introductions, sharing of ideas--appear to be time-consuming but, in fact, set the tone for the entire workshop. Student participation is essential; students are responsible for the outcome of the seminar. It is rare when these activities are used to find even a single student who does not become an active participant.

The seminar format will not work with all subject areas. The amount of material presented in many classes, for example Sociology 101, is so great that it and the reading it involves could not be accommodated in this format. But where attitudinal shifts and the examination of values and ideas are most important, this approach has something to contribute. It allows for time to consider an idea deeply. It facilitates student involvement in the learning process. It makes it possible for a variety of non-traditional students to participate in the same class experience.

Student evaluations have been excellent. They seek other classes in the same format. They recommend the seminars to other students. And most importantly, they report back after months and even years that the learning from these workshops has remained with them.

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DEVELOPING AN ENGLISH AS A SECOND LANGUAGE PROGRAM

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ABSTRACT

A. Name of course or program: English as a Second Language Program, Tidewater Community College, Virginia Beach Campus.

B. Purpose: I expanded and improved the procedures for communicating all aspects of the ESL Program (basic program purpose, course content, testing and placement procedures, specific course assignments, etc.) to prospective students.

C. Procedure: (1) I prepared a brochure (which explains our ESL program, gives a map, etc.) suitable for mailing and distributed quantities to these offices: Counseling, Veterans Affairs, Administration, Humanities, Continuing Education. They have also been distributed among various area organizations which have contact with non-native speakers, and I keep copies in my own office. (2) With the help of many students, friends, colleagues, and members of the community, I prepared a booklet which contains an expanded explanation of the ESL program and course descriptions translated into 20 of the languages we encounter most often on our campus. Copies of this are available in all Administrators' offices, all English faculty offices, and various student-service offices. (3) To provide counselors with a more consistent procedure for assigning ESL courses, to provide students with a written record of their ESL course requirements, and to provide me with this statistical information on entering students, I prepared the ESL Placement Form and had it duplicated on 3-part NCR paper for appropriate distribution.

D. Effectiveness: We had one ESL course per quarter with an average enrollment of about 5 students in 1978 and 1979. Once we initiated a systematic testing and placement procedure and publicized and translated the information about our ESL program, enrollment increased. We now have four different courses, two sections of each per quarter (all four quarters), with an average enrollment of 25 per class.

My Division Chairman, Dr. Deborah DiCroce, and the Co-ordinator of Counseling, Miss Carolyn Pulley, have both agreed to supply comments evaluating the usefulness of these procedures from administrative viewpoints.

Naturally, the numbers on enrollment increase, the evidence that our ESL students now receive better English instruction and are able to pursue regular academic studies, and the improvements in the administrative aspects are worthwhile achievements, but equal to those, for me, is the non-quantifiable reward of the greatly-improved attitude toward the ESL program which the above strategies engendered. The comraderie which developed among the many students who participated in the translation work has persisted with the result that the non-native students regularly offer advice and help to one another and to new students. Many, many incoming students have expressed delight at the translated information; they seem to see beyond the helpful version in hand to the effort which produced it and the positive environment which encouraged them to translate in the first place. Perhaps due to the word-of-mouth information and/or the translation, most students have a better understanding of the program's purpose and expectations.

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VERBAL EXPRESSION LABORATORY: INDIVIDUALIZED TUTORIALS FOR NON-CURRICULUM ADULT STUDENTS

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ABSTRACT

In order to meet the special writing needs of noncurriculum students, the Writing Center at Tidewater Community College, Virginia Beach Campus, created Verbal Expression Laboratory (English 07), an individualized tutorial course. Although the course was originally designed to supplement and reinforce writing concerns for students in other English classes, we discovered that it could offer a unique service to returning adults, especially those who had been away from higher education for many years. For students who hold academic degrees, repetition of transfer credit English courses is an awkward and sometimes inadequate method for polishing writing skills; however, English 07 offers an alternative program designed to meet each student's particular writing needs.

In this three-credit-hour (non-transfer, developmental credit) course, each student meets individually once a week for a thirty-minute tutorial session with a tutor, who plans a program based on a writing sample and questionnaire distributed at the first session.

In order to publicize the course, I wrote a course description for the registration schedule book and met with counselors to describe the course and the students whose needs we hoped to meet--primarily returning adults. As a result, counselors suggest English 07 to students who need a refresher course before continuing their academic careers and to businesspeople with degrees who wish to improve their writing skills. Counselors schedule the students for their tutorials, using a calendar prepared by the Writing Center staff. Class size is limited to fifteen students to ensure that each student receives a full thirty-minute tutoring session.

A survey of former students shows a high level of satisfaction with the course and a willingness to recommend the course to others.

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THE USE OF A JOB SHEET AS AN INSTRUCTIONAL AID

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ABSTRACT

The job sheet was developed to be used in the Welding program at Paul D. Camp Community College.

After the first year of operation of the Welding program, the need for a record of student achievement was recognized. Because of the wide range of student backgrounds, ages, previous training, interests and abilities, it was necessary to have some means of recording the level of performance for each individual student. The job sheet keeps track of who does a job and when it is completed satisfactorily.

Meetings were held with my advisory committee. Together we set up a list of objectives and jobs that a student should complete satisfactorily in order to be a competent welder or burner. These job sheets were developed and refined over a period of several years.

When a student who has had previous welding experience--either on-the-job training or educational experience--comes into the program, we follow this procedure. First we review our safety rules and welding policies. The student must pass a safety test. He is then tested to find the level at which he is working. This gives us a starting point and eliminates duplication of previous training and keeps students up to date on what jobs they have completed and what needs to be accomplished. A student who has had no previous welding experience would start on the first job and continue at his own rate until all objectives have been met.

The use of the job sheet has been very effective. It has reduced repetition of work done by students who have had previous training. It has increased student attention, interest, participation and self-motivation. It has created a feeling of competition among students and has encouraged them to do better work. The use of the job sheet helps to maintain order in the classroom for the instructor and the student. It gives the student a basis of comparison of his work to other students' work and lets the student know where he is and where he has to go to complete the required work.

These competencies can and should be a starting point for any welding instructor to use and modify to fit his particular service area. They should be discussed with the employers in the area. They can be changed to meet the changing needs of industry in any service area.

Enclosed is a list of competencies developed for Paul D. Camp Community College over the past ten years. They have proven to be valuable in the Welding instructional program.

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FOOD FOR THOUGHT: A LABORATORY GUIDE TO BASIC ANALYTICAL RESEARCH IN FOODS

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ABSTRACT

This ten-week sequence of chemistry laboratory experiences for non-science majors was designed by Drs. David Taylor and George Garrigan. It is presented at Northern Virginia Community College in Woodbridge as the laboratory studies associated with the first quarter of the non-science majors chemistry course (Chem 101). A somewhat modified version of this same program is given to learners taking Chemistry 006. It features an integrated series of activities which emphasize modern analytical procedures and instrumentation. All activities but one are quantitative, all interrelate with each other, all presume an active interaction between instructor and learner, and all are thoroughly tested to provide consistently satisfactory results.

Learners provide about 220 g of a mixture of solid foods from their regular, balanced diet. Each works individually on his or her own food throughout the quarter. Learners determine the percents of moisture, ash, and fat; concentrations of iron, calcium, and zinc; presence of mercuric, sodium, magnesium, zinc and lead ions; and determine the saponification number of the fats present. They use drying ovens, muffle furnace, Spectronic 20 and Atomic Adsorption spectrophotometers, Soxhlet extractors, Vreeland Direct Reading Spectroscope, magnetic stirrers, Oxford Pipetters, burets, and pipets. Graphical and statistical analyses are employed (Q-test, mean, standard deviation, confidence interval, Student t, and linear regression) to interpret the data. The pedagogical design of this course was influenced by the work of Piaget, Ausubel, and O. Roger Anderson. Directions proceed from Advance Organizers and are in pictographic format, calculations are done by ratios, and

numeric results are checked through the use of a specific computer program developed for this course.

This approach has been used for over five years by both full time and part time instructors with equal success. Learners find it to be demanding of their time especially for computations but support it enthusiastically in their end-of-quarter subjective evaluations. They find it "relevant" (often citing an enhanced awareness of the quality of the foods they eat) and satisfyingly mature for what they expect from a college level chemistry course.

Materials developed for this course include a laboratory manual, two computer programs written in BASIC for the APPLE IIe, a list of reagents and materials needed for each study, and a short review of hints and insights which help make the course go smoothly.

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SURVEY OF AMERICAN GOVERNMENT: A COMPUTER-BASED APPROACH

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ABSTRACT

This project was developed for use in Government 180, a course designed for the occupational-technical programs in the State Curriculum Guide for Virginia Community Colleges. The course is a broad, general survey of American government intended to be non-transferrable.

The material for the course including text, objectives, tests, and quizzes was put on the computer so that students could have a self-paced course. Students in our occupational-technical programs were having difficulty scheduling GOVT 180 because of lab requirements.

Since there was only one government instructor at Virginia Highlands Community College, there was not much flexibility in meeting these scheduling problems. Therefore, a new method of delivery was sought.

This project was completed over two summers with the help of a Title III grant. The first summer's objective was to computerize the learning portion of the class while maintaining the manual testing procedures. With the help of an authoring package called *EnBasic* by Compress, all seven units were put in computer format. The student can view the objectives, read the material, and then drill himself on the objectives. The computer then tells him if he's right or wrong and helps him obtain a correct answer. Occasionally, the student is directed to other audio visual materials for the learning process. There are also some outside readings that were not put on the computer, since it was determined that this would not be an effective means of delivery.

The second summer was dedicated to developing a computerized testing system. A testing program called *Teacher Create Series* was purchased from Educational Courseware along with the rights to modify the program. After the software was modified, the students and the instructor were able to obtain immediate feedback pertaining to student progress. The computerized system greatly reduced the amount of routine recordkeeping. Therefore, the instructor is now able to devote more of his time to helping individuals with questions on the material.

The project has been very effective. The students have benefited in several ways: (1) they are able to work at their own pace, (2) they are able to obtain immediate feedback, and (3) they are becoming familiar with the computer. The project is now in its third quarter of operation and after working out some minor problems, students seem to be enjoying the computerized GOVT 180.

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INCORPORATING COMPONENTS OF INDIVIDUALIZED INSTRUCTION INTO A LECTURE CLASSROOM

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ABSTRACT

Components of individualized instruction (e.g., small units of study, specified learning objectives, quiz retake opportunities, and immediate feedback on quiz performance) are incorporated into a lecture classroom for General Biology I, II, and III (BIOL 101, 102, and 103).

The nonlaboratory portion of each course is divided into 12 written units of study. Each unit is keyed directly to the textbook and contains an introduction, outline of the content, list of resources, learning objectives, and a self-quiz that is based on the objectives. Students are assigned a specific unit or portion of a unit to complete before each class period. Since the unit outlines and organizes what students must know, the function of the lecture is to assist them in learning that material. Students determine the specific content of a lecture by identifying, at the beginning of a class period, problems they encountered while working through the assigned lesson. The problems are recorded on the chalkboard and become the focus of the lecture. Since the lecture is not comprehensive, it is only marginally beneficial to students who have not completed their assigned work, and are, therefore, unable to identify their own problem areas. Put simply, the lecture meets the needs of a student to the degree that the student prepares for class. If a student has no difficulty in completing the assigned work, there is little reason for the student to attend class.

Student learning is assessed on the basis of performance on unit quizzes and review tests that are administered in the Learning Resource Center and graded immediately. Three different, but comparable, multiple choice quizzes were written for each unit based on unit objectives. To receive credit for a unit students must quiz promptly at the end of the unit. They are rewarded for taking the quiz on schedule with a quiz retake opportunity. (A student takes a maximum of two of the three available quizzes for each unit). Quizzing promptly over a completed unit permits students to advance their attention to the next class assignment. Students also take three review tests, each of which covers the content of four units.

Verifiable assessment of instructional effectiveness is elusive, but I would offer the following observations:

The sections taught on this format are viewed by students as very demanding. Since it is not possible to be successful in the course without keeping up with the course schedule, students must work consistently throughout the quarter, rather than during the few days just prior to a major exam. Yet these sections attract strong enrollments even though individualized and traditional lecture sections are available.

In a comparative study that covered three consecutive quarters (Fall 1982-Spring 1983), these sections generally experienced a lower frequency of W or F grades than either the individualized instruction or the traditional lecture sections.

As a lecturer, it is a pleasure to speak to students who attend class because they choose to be there, who come informed about the assigned lesson, and who are prepared to ask questions and enter into discussion. It surely beats talking to "empty receptacles!"

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COMBINING PUBLIC SPEAKING WITH ORAL INTERPRETATION

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ABSTRACT

In my Principles of Public Speaking Class, which is a five hour course I combine public speaking with oral interpretation. I usually have quite a few students in this class going into education, and I feel that they not only need to learn to speak well, but they need to read effectively. I find that the students do the latter much better than the former.

It was important to me that I find a way to improve my students' reading aloud abilities. First of all, I decided that for their initial reading assignment I would have read material for children. The children could be one year old to twelve years old. Part of the assignment was to let the audience (class) know what age group they were. The readers were required to communicate in the best possible way to that group. Just about anything goes in this assignment as far as setting the mood. I encourage props, costumes, and, most of all, reading from colorful Children's books and showing pictures to the audience, which leads to more effective pausing than many of them are used to. They also can bring up several members of the class to sit around them while they are reading. Those with children or younger brothers and sisters are invited to bring them to that session. The children really seem to enjoy it as do the "big kids." In introducing their selection(s) they set the mood by telling us why they chose their material. (Many read stories or poems that were read to them as youngsters by loved ones.) In giving this assignment I am hoping to reach several goals. First, I believe it reduces the student's apprehension, as it is a very informal affair. Second, as mentioned earlier, it helps them pause effectively. (We are taught in silent reading to do it rapidly, but this does not work well in reading aloud, especially in reading to children.) Third, their interpretation, depending on the age group, needs to be very expressive. Young children really like exaggerated movement and vocal quality. I let my students know that it is easier to tone down a performance than it is to add expression. I find, too, that most students are somewhat inhibited and this assignment helps them let go. Fourth, it stresses the necessity of adequate eye contact. I hope that the objectives accomplished in this session will be found, in varying degrees, in their final exam. It generally happens that it does.

When I return their manuscripts with my comments and their grades on them, if they receive anything below an A, they are asked to come to my office for a few minutes to work on their readings. If they do this, I raise their grade a half a grade. Usually 75 to 90% will take advantage of this. Mainly, in these office sessions we work on pausing, emphasis, characterization, and I have to remind some that more eye contact is desirable. I also use this same type of grading for their final readings.

My evaluation of this program is favorable, because of the positive feedback I get from my students. They feel that by the assignment and followup they improve their reading with meaning.

The above information could be used by instructors teaching the following courses: SPDR 130, SPDR 131-132-133 and SPDR 276.

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TEACHING A PROCESS FOR LITERARY ANALYSIS USING HEMINGWAY'S A FAREWELL TO ARMS

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ABSTRACT

In this presentation of English 112, students are introduced to the study of fiction through an intensive, indepth study of *A Farewell to Arms*. Research on World War I, childbirth, treatment of wounded soldiers, Hemingway's life, and the writing of the novel and development of the movies derived from it sharpens students' research skills and fills in background information useful in discussing and writing about the novel.

After students discuss New Critical Aspects of Fiction and apply them to three short stories, they complete several tasks designed to show *A Farewell to Arms* in its historical and cultural setting as the work of a vibrant and developing writer. First, students read a plot summary (Appendix #1) and answer inferential questions as they read the novel (Appendix #2 shows the questions, Appendix #3 shows advanced level answers). As students are writing their answers to these 34 study questions for homework, we work in the library on the individual background projects each student selects from a list of three dozen (Appendix #4; Appendix #5 is a sample student report). The project assignment includes a bibliography of background readings (in Appendix #4) which have been garnered over the past few years for library reserve holdings, including reports by previous students which current students may use as a springboard for a more sophisticated report. Students often share an assignment, negotiating a way to divide the topic, the reading load, and the writing load. In addition, to reserve materials, students use area libraries, including specialized libraries where they work.

After students complete their study questions, we discuss probable answers and trace clues in the novel to judge the most sensible interpretations of character's actions and statements. Students then study six lists of passages (Appendix #6 is a sample) for discussions of themes, symbolism, and writing style. Depending on the available time for these discussions, students work in one group per list or the whole class discusses one list at a time. The whole class views sample student essays on the novel on the overhead projector; essays come from previous years' students with permission for their use.

After the whole class views and discusses these essays, we watch one of the following versions of the novel on film: (1) the 1958 *A Farewell to Arms* with Rock Hudson and Jennifer Jones rented from Films Incorporated, 476 Plusmour Drive, N.E., Atlanta, GA 30324: 800-241-5530; or (2) the 1932 version with Gary Cooper and Helen Hays rented on 1/2" videotape from a local distributor or checked out from the local library on 3/4" videotape. Students, shocked by the Hollywoodization of the film, review their plot summary and discuss the demerits and some merits of the Hemingway plot turned into film.

Students write a final essay from a list of professional and student thesis ideas (Appendix #7; Appendix #8 is a sample essay). These essays and the involvement of the students in class discussion and research have been far richer than similar activities in my earlier short story survey courses in English 112. Advanced students often surpass themselves, and all students suddenly have more resources and more understanding than they had for assignments in earlier versions of the course.

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STATISTICS FOR ALLIED HEALTH STUDENTS

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ABSTRACT

The curriculum for Allied Health students at the Virginia Beach Campus of Tidewater Community College requires at least one quarter of mathematics. The Allied Health and Mathematics faculties felt that one unit on statistics should be included in the material covered.

Along with basic arithmetic, the topic Descriptive Statistics is most used by the general public in everyday life. In the technology areas, most journal articles, technical reports, and equipment manuals include descriptive statistics. The technologist is at a disadvantage if he is not aware of the basic concepts of descriptive statistics.

It has been quite difficult to find a textbook of a level at which students felt comfortable and the mathematics faculty felt worthwhile. To have included a unit on statistics seemed to be one requirement too many. The only solution seemed to be supplementary material on statistics created by the faculty.

Since my master's degree is in Statistics and I have four years' experience in Public Health Statistics, I took upon myself the project of authoring a unit on Statistics.

The material that I felt should be covered includes the basic topics in Descriptive Statistics. Many statistical textbooks allude to the concepts that I felt important, but the implication is usually that the student already knows this material. As a result, many poorly organized tables and charts are displayed, and many students do not know how to create a table or chart or to judge if one is well constructed; statistical charts and tables can be easily misread or misinterpreted by the uninformed.

The unit covers the following topics:

- Definition of continuous and discrete data (with examples of each).
- Methods of data collection (convenience and probability samples).
- Analysis of Data (Item and leaf plots; table construction [proper way to construct a frequency distribution table]).
- Data abstraction from published tables.
- Graphs (Bar chart and histogram construction; line chart and pie chart construction).
- Measures of central tendency and variablility and quality control charts (mean, median, mode, range and standard deviation, application of mean and standard deviation to quality control charts).

The unit emphasizes descriptive statistics and the proper methods for constructing tables and graphs. The topics, measures of central tendency and variability, discuss the meaning of these measures and applications through quality control charts on hospital equipment.

Data used for statistical analysis is stored in the IBM 4341 or is taken from the latest Statistical Report of the State Department of Public Health. There is a program called DESCRIPT that groups data and computes the mean and standard deviation of the data. If more time is available, the students are taught to use STATPAK in the MUSIC system of the IBM.

The unit is being used at the Beach Campus for MATH 117 and MATH 113 (the third quarter of a three-quarter sequence for Allied Health students). It is also being used as a refresher handout for those students who need a review of statistics.

The unit has been used by more than one instructor and has been used in more than one quarter. The instructors that have used the unit have found that it covers the material and that the students respond well to the text. Allied Health faculty express satisfaction with the methodology. The consensus is that the unit meets the needs of our students and allows us more latitude in selecting a textbook containing the other mathematical units that need to be covered.

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ENGLISH AS A SECOND LANGUAGE: INTENSIVE FOR COLLEGE PREP

Barbara J. Jacobson and Sharon Tushin
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ABSTRACT

This grant was based on the Intensive English (English as a second language) class that is sponsored by the Community Education Program at the Alexandria campus of NVCC.

There are three objectives to this course. The first is to provide flexible intensive English instruction for 20-30 students who are low-beginning to high intermediate. The second is to introduce the student to the college system--entrance requirements, placement tests, registration, deadlines, etc. The last, and most important objective, is to provide an atmosphere where both the lowest and the highest students are motivated to learn and advance.

The first thing to do is to determine the level of the students. This is done by giving them the CELT test--a 45 minute objective English grammar test. Based on the results, the class is divided into two groups. The two groups are separated for intensive grammar lessons and for audio-lab. The two groups work together for conversation lessons and for reading. Individual writing assignments are provided through the dialog journal and through weekly writing assignments. (See attachments for copy of the books and lab materials.)

The class meets five days a week, three hours a day. Two teachers teach this class. B. Jacobson on MWF and S. Tushin on TR. On MWF, after all the students write in the dialog journal, they are separated for their grammar lessons. While B group (low level) is doing its lesson, A Group works on worksheets for the newspaper or the SRA reading. After 35-45 minutes, the groups change. A Group works on grammar while B Group does its homework and work on the SRA. Both groups are tested every two weeks; each group receives a test based on the material covered.

Following the grammar lessons and break, the class is regrouped. During this 60-75 minutes, the teacher works on conversation, pronunciation, idiom drills and the newspaper. It is felt that both groups benefit from each other in these areas. In addition, on T-R the language laboratory is incorporated into class time. One group goes to lab while the other groups has their grammar lesson. This is then reversed. On Thursday, the students have a writing assignment which is unstructured. They are asked to write for 20-25 minutes on a topic related to some aspect of the classwork. Less capable students might only write several sentences; whereas, stronger students might write paragraphs or longer essays.

This project was based on our fall quarter 1984 class. Eighteen out of 26 students passed the Alexandria campus placement exam. Seventeen of those students enrolled in the winter quarter. Eight did not pass; however, their initial scores were very low. Four of those reenrolled the next quarter.

The success of this class is due to the flexibility of our program. Dividing the groups for grammar; combining the groups for conversation, writing, pronunciation, and reading; and providing for individuality in the SRA reading program, journals, and writing assignments. We feel we successfully met the challenge of a multi-level class.

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COORDINATION OF A COMMUNITY ORGANIZATION'S EDUCATIONAL WORKSHOPS WITH THOSE OF AN ESTABLISHED COLLEGE CURRICULUM

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ABSTRACT

The Tidewater Child Care Association (TCCA), a non-profit organization, sponsors monthly workshops to expose providers to new trends and issues in early childhood education. The majority of the service population has no special training, many holding only a high school diploma or its equivalent.

The quality of the TCCA workshops has been consistently high. Recognized professionals in the areas of child development, child psychology, infant care, pediatrics and pediatric nursing, social and community services have served as instructors. Because of the quality and range of these workshops, in 1976, the Frederick Campus began awarding continuing education units (CEU's) to those who attended any one of the nine given each year.

After several years of these workshops, Frederick Campus and TCCA realized that they held several objectives in common:

1. To offer incentives for day care and home care providers to continue attending the workshops.
2. To establish cohesive cooperation between the community and the community college.
3. To introduce a normally non-college oriented population to the long range benefits of entering an established education curriculum.

As a result, the campus decided to incorporate the nine workshops ordinarily presented by the TCCA during a year with a single college course number, Education 120, Introduction to Early Childhood Education, and to offer three college credits to those who successfully completed the workshop series.

After the TCCA membership was surveyed and 83% reported strong interest in receiving college credit for workshop participation, the campus early childhood instructor and the executive director of TCCA met to choose topics for the 1983-84 workshop series. Nine Saturday workshops were planned from September through June with December omitted. Participants registered in the fall of 1984 for Education 199 and attended three consecutive workshops during the quarter, completing assignments each month. After completing these, students were awarded one college credit. If they continued through the winter and spring quarters, registering for Education 199, attending three workshops each quarter and completing all assignments with an A, B or C grade, they were then awarded three college credits. Education 120 in the Early Childhood curriculum was then waived in favor of the three credits in Education 199.

Of the twenty-seven students who registered for the first quarter in 1983, fourteen completed the three-credit series. Of these, eight have attended other classes on campus during the 1984-85 year. These eight students experienced success at the college level and have committed themselves to further education. They also served as role models, both personally and professionally, for other child care workers.

For the 1984-85 academic year, workshops are geared to the completion of Education 127, Problem-Solving in Early Childhood Education. All three of Tidewater Community College's campuses are now involved and enrollment has substantially increased.

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"MOMMY AND ME" A TEACHING TECHNIQUE FOR EDUCATION 290, COORDINATED INTERNSHIP IN EDUCATION

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ABSTRACT

Among the problems facing all faculty developing early childhood education programs, two are critical: how to provide opportunities for students to plan, write and implement specific preschool programs and how to provide opportunities for parents to observe and learn effective parenting methods in a group which provides sound educational support. The first of these problems, at least, also faces faculty in any program which demands practical, on-the-job experience. Traditionally, in the early childhood program at the Frederick Campus, students who are qualified to complete the internship course have spent forty volunteer hours in a day care center. This, however, addresses only part of the first problem and none of the second.

At the Frederick Campus, "Mommy and Me" has provided a workable solution to both. Parents and their preschool children, ages 18 months to 4 years, are invited to register for the five week program which meets on Tuesday mornings from 9:00 to 11:30. Five volunteers from among the students registered for Education 290, Coordinated Internship, choose a theme and plan and carry out a five week preschool for the children in a large classroom. In a smaller adjacent classroom, the instructor conducts a seminar on child rearing practices and problems for the parents. The parents also participate, for about a half hour each session, in the children's activities. This teaches them new activities and models behaviors appropriate for children. Parents receive one college credit in Education 199, and the early childhood education students receive three credits in Education 290.

From the five students volunteering for this project, the one with the most educational background and/or maturity is selected by the instructor to be the director of the preschool. Three other students are chosen by the director to be teachers and the student with the least experience is the classroom aid.

The "Mommy and Me" program has four goals:

1. To provide early childhood education students an opportunity to plan, write, and implement a preschool program.
2. To introduce parents to current parenting trends and issues.
3. To provide parents of young children an educational support group.
4. To provide an interesting education program for children of participating parents.

Evaluation of the project indicates that these goals were met. Education students indicate that they are impressed by the amount of planning time and preparation it takes for a three-hour teaching session and the valuable experience it provides for later employment. They also say they gained valuable interpersonal skills as they disagreed and compromised on topics, children, room arrangement, job duties, etc. Evaluations from parents have been positive and several have returned for a second session, bringing friends with them. Several became good friends, forming on-going informal support groups.

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DEALING WITH SOME INHERENT PROBLEMS IN TEACHING DEVELOPMENTAL ARITHMETIC

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ABSTRACT

This grant was developed for Mathematics 05, Basic Arithmetic, an introductory, developmental course which serves as a prerequisite for all other mathematics courses offered at the Virginia Beach Campus of Tidewater Community College. It is also the first course in our mathematics sequence.

The following ideas were carried out: (1) attacked math anxiety at the outset of the course; (2) used concrete objects and pictures as often as possible; (3) emphasized guessing, estimating, looking for patterns, and organizing data; and, (4) worked in groups of three or four in order to emphasize verbalization as much as possible.

The class consisted of twenty 100 minute sessions. In session one students wrote a math history. We discussed the mathematics curriculum in general and their particular goals; the nature of math anxiety, how to study math, myths about math, test anxiety; and the use of math in society, the kinds of mathematical things they would like to be able to do. It was my goal as an instructor to know each name before the end of the first session.

In session two the "Piagetian Skills Test" by Robert Hartshorn, Ph.D., was administered; a math anxiety scale was administered, and the videotape "Math Anxiety" was shown. A schedule of the sequence of topics was given out and we discussed how to follow the schedule and the timing that would be necessary if one wanted to complete the course in one quarter.

Session three became the prototype for all succeeding sessions, with the exception of the introduction of the groups and how the groups would function.

The whole class was presented with a problem which required noticing patterns, organizing data, estimation, and good guessing. The class worked on these individually and then through discussion and then finished the problems at home. The solution was then discussed during the following session.

The class then divided into groups and the groups set their agenda for the day. Each member of the group took responsibility for working with other members of the group. The group then determined when they were ready for testing on portions of material. The instructor provided the tests. The group administered its own test. They graded their own tests and then the instructor was consulted about those problems on which consensus was not reached. Individual assignments were given for those areas which were not mastered and individual tests were given on these areas.

The groups were encouraged to use concrete objects to help them to understand troublesome concepts.

The remaining sessions generally followed the pattern set in session three.

In assessing this course the following results were found: (1) The atmosphere in the class was excellent. Students really did help each other; (2) Attendance levels were higher than usual for an early morning developmental class; (3) Pass/fail rate was not improved. Those who would have been likely candidates to pass the course were those who liked this arrangement. The students who would have been predicted to repeat the course were those who did indeed need to repeat the course. Those who were repeating from an earlier quarter had the most difficulty with this arrangement; I suspect that the change in structure is most disturbing to those who have already had difficulties with a course; (4) The follow-up for succeeding quarters is not available; (5) More work needs to be done on the lab portion of the course; and (6) I believe that the grouping idea has a lot of potential.

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HONORS CURRICULUM

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ABSTRACT

The Honors Curriculum of Frederick Campus of Tidewater Community College is a two-year program leading to an Associate in Arts or Associate in Science Degree. Any student majoring in liberal arts, fine arts, science, education or business, who qualifies, may participate on a part-time or full-time basis. Our faculty and our counseling staff present details of the Honors Curriculum to students and counselors at local high schools and invite students to apply for admission to the honors program. Eligibility is determined by test scores on reading, writing, and mathematics placement examination, previous academic record, and/or recommendations from instructors.

The program was instituted in the fall of 1979 to challenge both bright and highly motivated associate degree candidates to take their general education courses with other students who are striving for excellence. The Honors Curriculum received an $18,846 Funds for Excellence grant from the State Council for Higher Education in Virginia for 1982-1984. Prior to receiving this grant, the program ran successfully for three years despite severe limitations. The only special funds were donations from faculty which helped us to award a full tuition scholarship each quarter.

Three courses on our campus were offered for the first time when we started the honors program: World Literature, History of Civilization, and Interdisciplinary Principles of the Humanities. These courses provided the degree student with a literature requirement, a history requirement, and a humanities elective. The History of Civilization course was created by the humanities and social sciences division to complement the honors curriculum. This course was deemed more suitable than the traditional western civilization course because it gave the student a world view rather than limiting it to western man. Similarly, the interdisciplinary course is broader in scope than simply a survey of western culture.

The program attempts to provide students with a world view on issues, an interdisciplinary approach in instruction, and an enriched course content through the use of extracurricular activities, seminars, films, guest lecturers, and field trips. During the years that we had the Funds for Excellence grant, we offered trips to several local museums as well as weekend trips to Washington, D.C. and New York City. We also had several guest speakers come on campus to speak to all interested students and community members, not just those enrolled in honors courses. Last spring the internationally known Bruno Bettelheim spoke to students, faculty, and community members and participated in an informal discussion and luncheon with faculty and students involved in the honors curriculum.

The enrichment activities offered by this program have helped attract enthusiastic students of a high caliber. Although honors courses may not differ in their basic goals and objectives from those courses taken by other students, we group bright students together to increase the interaction of students who may have positive influences on each other. We believe this is especially important in a community college where such opportunities for interaction are limited.

Although these courses may be open to non-honors students, we try to group Honors Curriculum students together in special class sections which are limited to discussion-size groups. Through use of community resources, we increase the opportunity for outside cultural activities relating to many different disciplines. In these ways, we are able to attract more eligible students to the honors curriculum where we can motivate them to strive for excellence--not just a degree.

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CHRONICLES OF THE SEA: THE HISTORY AND LITERATURE OF MAN'S VOYAGES

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ABSTRACT

We planned our new course, "Chronicles of the Sea," to be a humanities elective with transfer potential. We offered it for the first time in the spring of 1984 as English 299: 81/82A. For our purposes, we decided to offer it this spring, the second time we are to work together in it, as Humanities 299.

By way of background, Dick Lacy and I taught "Chronicles" as an inter-disciplinary study of the history and literature of man's voyages. J. Sargeant Reynolds Community College introduced the course during the spring quarter of 1984, within the Humanities and Social Sciences Division, at the Parham Road Campus. Twenty-five students shared our experience with the study of man's relationship with the sea.

Team-teaching from the perspectives of the English and government departments, we created a two-dimensional course which reaches across disciplines incorporating fiction and non-fiction sources to study seafaring, exploration, discovery, colonization, fishing, whaling, mining the sea, and many other topic of man's experience with the ocean and its environment.

Our objective for "Chronicles" was to read and think about the sea in its broadest context; we read such authors as Rudyard Kipling, Herman Melville, and Joseph Conrad with respect to themes from fiction such as realism, romanticism, and the conflict with authority in cases of mutiny; in addition we concentrated on themes of interest to historians, sociologists, scientists, and philosophers with respect to issues concerning the power of nations over the oceans, the law of the sea, man's confinement, endurance, courage, and recreation at sea.

By focusing on one element of man's life--going to sea in ships--we believed that we would learn something about the "flavor of life" during the various periods, and at the same time, come to appreciate the continuity of history. We were acutely interested in scientific writings about the perils and potentials of the sea. Finally, we hoped that we could offer our students the opportunity to participate in experiential learning through several field trips and a voyage.

We encountered the problems and made the mistakes that one normally encounters on any "maiden voyage," but we are delighted to be able to report that it was clearly a successful voyage. Our students produced outstanding work, and their enthusiasm was exceptional. Student evaluations confirmed, even surpassed our own observations that the students were highly satisfied with "Chronicles." Several of them in fact plan to take the course again this spring!

It is our belief that the success of this course stems from a number of factors. Apart from having a fascinating subject and a fine group of students, we know that our attempt to involve them in integrative, experiental learning experiences produced the desired results. Many students commented that they particularly enjoyed and appreciated having two instructors bringing their different talents and perspectives to the class. The extra effort made to carefully plan field trips, recruit guest speakers, and obtain rare films paid generous dividends. A secondary benefit, but an important benefit nevertheless, was for both of us to have the opportunity to learn from one another by sharing each responsibility from the planning of the course, to decisions about learning activities.

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COMPOSITION EVALUATION AND WORKSHOP TECHNIQUES

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ABSTRACT

One of the primary objectives of a Freshman English course is to have the students write effectively and with confidence. The enclosed composition evaluation form can be used with great success to achieve this end in the English 111-112-113 sequence.

Each of the ten items on the evaluation form reflects a crucial concern of an effective essay. Beginning with an examination of the thesis sentence and going through an analysis of each paragraph (Are the details strong enough to support the idea presented? Is there an appropriate discussion of those details?), the students consider both the overall plan of their essays as well as the execution of them down to the most minute details (word choice, grammar, and sentence structure).

How this instrument is used in workshop sessions, however, is the real measure of its success. First, I divide the class into groups of two and give each student a blank evaluation form. I then give each group one copy of an essay done by a student in that class (the student's name is withheld). Each pair reads the essay together, discusses it, and tries to arrive at some agreement on how the essay succeeds in each of the ten categories. When the students have finished evaluating the essay, I conduct a poll on each of the items. I may find, for example, that for item #1, "Is the thesis sentence clear?" seven students gave it an A, five students a B, and thirteen students a C. I then ask one of the students who graded it an A to identify the thesis statement and explain why he thought it was excellent. After he has done so, I ask one of the students who gave the item a C, whether or not he was convinced by the previous student's argument. If he was not, he needs to explain his objections. Discussion of this item continues until the class comes to a satisfactory understanding. I then go on to the next item.

After we have finished discussing and evaluating each item, I return to the students their essays. With each essay is a composition evaluation form, headed by the student's name, that was scored by me. I make comments in the text of the essay when appropriate, but the evaluation form will be a running record of the student's performance on all essays in my class.

On the last day of class each quarter, I ask my students to write a candid evaluation of their experience in my class and to do so anonymously. I find that they have consistently found the workshop sessions most beneficial and the composition evaluation most useful.

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ACCESS TO COLLEGE FOR PHYSICALLY DISABLED STUDENTS AND OTHERS VIA COMPUTER AND TELEPHONE AND COURSES TAUGHT THROUGH THIS MEDIUM

Donald Maxwell
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ABSTRACT

Many bright persons are so seriously disabled that they cannot write or manipulate classroom materials, or cannot get to the campus at all. Others, such as the profoundly deaf, can attend classes but are unable to understand lectures and discussions. And, of course, blind persons are unable to read textbooks and instructors' handouts. For all of these persons, a college education has been difficult or impossible.

Correspondence courses are not effective for many such persons. They are slow, they isolate students from other students, and they generally rely upon exchange of information via conventional written materials not suitable for many persons with physical handicaps.

To remedy this situation I have developed EDNET, an alternative instructional medium that replaces conventional printed texts and spoken lectures; is readily accessible to students who are deaf, blind, paralyzed, or otherwise unable to benefit from conventional classroom instruction; enables students to communicate with each other, as well as with their instructors; allows students to prepare responses to instructors and other students at their own pace; provides quick turnaround times; is accessible from virtually any location; is available at any time of the day or night; and facilitiates communication among faculty members.

Specifically, EDNET provides for personal electronic mail and for two different means of posting messages that may be read by anyone. It operates 24 hours a day, all year, using an Apple IIe computer. Access to EDNET is by personal computer and telephone modem, using any regular telephone line.

Because EDNET is so new, only two courses have actually been taught through it, to prove the system. One of the courses is English 111, "English Composition I;" the entire course was taught using EDNET and is being taught a second time this quarter. The other is LBRY 246, "Automated Library Procedures," part of which has been taught twice over EDNET. This latter course also demonstrates that EDNET is useful for classes in which there are able-bodied students.

Now that we have proven the system, we have begun announcing it in earnest. Many individuals and agencies for the handicapped have already responded with interest, and we expect to begin enrolling substantial numbers of disabled students soon.

In addition, quite a few faculty members have begun using EDNET to communicate with one another. Many of them are also considering ways of adapting some of their courses to the EDNET format and of incorporating EDNET into their regular on-campus classes.

In general, then, EDNET has already been successful on a limited scale, and as computers become less expensive and more available, I expect its use to expand considerably.

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COURSE: MENU PLANNING (HRIM 226)

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ABSTRACT

The primary objectives of this class were to teach the students how to write a profitable menu and to do so using menu engineering. Menu engineering is a very new technique being used in the restaurant industry today to increase the profitability of menus. This technique uses a computer software package to do simulation studies based on menu items served and the cost of the item.

In order to prepare myself for this new class and to learn about menu engineering, I worked part time for one quarter (16 hours/week) in Colonial Williamsburg learning about their computer system and how they use menu engineering. From my experience I gained a complete understanding of menu engineering and had many examples of its practical application to share in the classroom.

The first part of the menu planning class was centered around how to determine the menu items needed to meet the market's needs and wants. Once this was accomplished the students were then taught how to price menus and how to adjust the menu for maximum profitability using menu engineering. Menu engineering was first taught to the students using case studies and hand calculators. In order for the students to fully understand the concepts, they needed to know how the computer system manipulated the numbers. The objective was for the students to have a clear understanding of what each number represented (profit, cost, customer demand and their inter-relationship), how they could be changed to increase profits and to understand the capabilities of the computer system. The students then did a very similar case study using the computer system. It was imperative that the student understand that the menu engineering system was only capable of manipulating numbers that they put in the system and that the decisions about the menu changes based on the numbers had to be made by them.

The most important part of menu engineering is the decisions made on how to adjust the menu for maximum profitability. Again, case studies and examples from my industry experience were used to demonstrate the types of decisions that can be made and the facts used to back up these decisions.

To maximize the students' understanding of menu engineering, they were given a student project. Each student was to write a five item menu with selling price and food cost. With this menu they had to do three simulation studies using the computer system based on a constant customer count. In other words, they were to determine how much of each menu item should be sold and how the contribution margin of these items could be adjusted to maximize profits. Once this was decided the student then determined how the items should be placed on the menu in order to sell the anticipated amounts.

This class was very effective in several respects. First, the students were given the opportunity to learn a *very new* technique being used among limited restaurants in the industry. It is not often that an innovative idea like this, especially in the restaurant industry, is taught to the student before the industry has standardized it. The students felt good about being part of something so new. Secondly, the student got the opportunity to work on computers. They learned the capabilities and the limitations of the computer. An important part of the students' education today is to become comfortable working with computer software packages. Thirdly, the students did learn what is involved with designing a profitable menu. They now know that it is a complex process involving customer demands, costs, contribution margins and menu design.

In summary, the students and I feel that understanding menu engineering is a very valuable tool to be used today in the restaurant industry. The students felt that completing case studies and their projects were an excellent way to gain a complete understanding of the concepts.

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SELF-SYMBOL, SELF-BOX: ARTS AND DESIGN

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ABSTRACT

For the final project in Arts 154, Design I, the students designed a self-symbol. This piece of work represented an image or stylized concept of the student's personality, especially as it related to his or her work. The main objective was to make a self-symbol which was well designed.

In order to do this, the students applied their knowledge of the basic elements of design, which they had learned in Design I. Since these students will be entering the fields of commercial art, photography and fine arts, it was essential for them to understand the importance of presenting their work; therefore, a single piece of work was designed which could be used repeatedly. This piece of work was designed as a tool to gain recognition for the artist through self-promotion.

In order to achieve better results in the final project, a method was used before the project actually began. Each student made a self-box. This idea came from an art therapy book, *The Inward Journey*, by Margaret Frings Keyes.

The students began with an empty box, usually a shoe box. The idea was to adorn this box using pictures and paint to illustrate different facets of the individual's life. The whole box could be used or simply one part of it, for example, just the outside or just the inside. The box could also be torn or cut or taped or changed in any way to better illustrate what each student wanted to say.

The students did an outstanding job of presenting themselves in a well executed design. The self-box was a technique used to achieve this end and since the final results were so good, I believe this technique was an important factor.

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REVISION PRACTICES IN ENGLISH 111-113

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ABSTRACT

The rationale was that traditional approaches to the teaching of expository writing often fail to illustrate the power of effective revision. Most VCCS students I work with regard revision as little more than the "tidying up" of a graded paper. Most adept writers, on the other hand, use revision as a powerful tool. I try to shift student attitudes about revision by expressly teaching revision in English 111, 112, and 113.

The following are the several approaches I use to teach revision:

1. I acquaint students with the revision practices of professional writers. A convenient source is the *Paris Review Series*, a collection of interviews with prominent writers. In the segments I have excerpted, Hemingway tells how he reworked the ending of *Farewell to Arms* thirty-nine times; Joyce Carol Oates explains that she often undertakes a second novel as diversion to a first novel that requires a "cooling-off" period. Truman Capote explains that he composes only in bed, completing early

drafts in long-hand and later drafts in typeface on "a very special kind of yellow paper." Most students are interested in the personal and idiosyncratic accounts of professionals who struggle with writing.

2. I make students aware of their writing practices. I require that students keep an informal journal about their writing. Students record when and where they write, how they rework their writing, and how ideas come (or fail to come). For students who have difficulty introspecting, I provide a list of interview questions as prompts.

3. I require that students examine closely the drafts of a work in progress. I have on file copies of notes and successive revisions of drafts that lead to a published book review. I xerox the packet of drafts and have students work in groups to color code insertions, deletions, and changes from draft to draft. The results of the study are reported in group papers that describe the author's style of revision.

4. I provide students the opportunity to revise. After students grasp the principle of revision, I try to give some papers a penultimate reading--that is, a reading before a final grade is assigned. Students are free to make revisions based on my responses to the paper.

Students are usually surprised that professional writers revise as much as they do. Understanding that good writers rewrite is itself an invitation to revise. Given the chance to revise for grade, most students do. Almost without exception, papers are better as a result, and students sense it. Of course, all students do not adopt revision as a habit. But the mere act of considering revision is a step forward. Once in their professions, students will learn to distinguish between important writing that warrants revision and ephemera that does not.

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MODERNIZATION AND THE CHANGING NATURE OF COMMUNITY IN COLONIAL AMERICA

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ABSTRACT

This project comprises the first four weeks of the History 111 course, though the methodology for teaching it will eventually span the entire three-quarter sequence--History 111, 112, and 113. It proposes an alternative to the traditional History survey course by shifting the emphasis from coverage of content to the development of skills necessary to understand the content. By focusing on selected periods of the past, termed "moments," and by incorporating primary source materials and recently compiled data from disciplines other than what is usually considered "History," we can begin to provide students with a more complete picture of the past, one which makes it possible to recreate as nearly as possible what some have termed the "totality of human experiences." For the first time, students can begin to experience the past as people really lived it. They can finally find time to process information, to synthesize it, to evaluate it, to make informed judgements about it, to better understand the historical context within which it makes the most sense--in a word, to learn from it. Each student becomes a historian, experiencing the process of "doing" History, of assigning meaning to the past instead of passively observing meaning supplied by others. By taking students beyond the *whats* of History to the *whys* and *what-ifs*, we force them to confront the past with the explicit obligation to try to explain it. Until then, they might master portions fo the historical record, but they can never learn *from* it.

Beyond the critical and synthetic skills

nurtured by confronting primary source materials, major methodological advantages to this approach are to be realized in actually *writing* History. In addition to the advantages usually associated with "writing across the curriculum," one must mention the "plusses" to be gained by "doing" History. Among the more significant are: (1) the realization that education involves asking questions, not just answering them; (2) the willingness and confidence to reach what are sometimes hard decisions about the past and about those who lived it; (3) the creative experience of synthesizing materials, proposing meaning, and learning to support one's findings with evidence; (4) the ability to distinguish between historical fact and interpretation of fact; and (5) the ability to process and to order information as a means of separating the important from the unimportant. Each of these outcomes will benefit students long after they depart the History classroom.

In a sense, much of the evaluation of this project is contained in the narrative just completed, for most of what is suggested might happen did happen. Student enthusiasm, increased by participation, improved attendance, lower than normal attrition, and an environment where people talked more about successes than failures, about what they learned, not what they missed--these were all visible results of the effort. Unlike traditional courses where performance is measured by comparing one student against another, this approach enables everyone to be challenged and to experience success. Each student is evaluated according to insight and the depth of understanding, not one's facility to recognize and memorize. Individual progress is easier to measure and to reward. In this context, even the weakest student can improve and succeed.

Another advantage to this approach is its flexibility. By changing "moments" periodically, instructors can avoid the greatest danger in teaching survey courses--the tendency to grow "stale" in one's discipline and in the classroom. The approach forces historians to pursue research interests, to remain current in the professional literature, and to respond substantively to student interests and needs. The upper division courses community college faculty never get the chance to teach can become the "moments" we teach all the time.

All-in-all, I would term the project a resounding success, not only for what it has accomplished, but for what it promises. It has proven to be an idea rich in potential. For the introductory History course, how long since we have been able to say that?

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CIVIL WAR MUSEUM

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ABSTRACT

The Civil War Museum was established on the Annandale Campus to serve both the students of NVCC and the community of Northern Virginia. The museum was developed especially to assist in the instruction of History 216: The American Civil War and History 112: United States History II courses.

The Civil War Museum consists of two separate sections. The first, located in the Annandale Campus library, is a permanent exhibit of six display cases containing original Civil War artifacts on view to students and the general public during regular library hours. The remainder of the collection is housed in a mobile museum (a large van, renovated into a mobile museum), which travels on request to elementary, junior and senior high schools, libraries, nursing homes, campus celebrations,

and nearby city, town, and county festival days. These combined exhibits offer a special and unusual opportunity as an educational attraction, while perserving part of Northern Virginia's heritage.

The displays in the library and on the van are available to all classes at NVCC and display items are used for demonstration purposes in both American and Civil War History classes. Programs provided by the Mobile Museum (to college classes, public schools or civil groups) include general lectures, discussion of display items plus a living history demonstration on the life of the Civil War soldier by one of my Civil War students (dressed and armed as a Confederate or Union soldier).

In evaluating the Civil War Museum in the library and the Civil War Mobile Museum, it is evident to me that they have provided an educational experience to thousands of people over the last five years. Not only have hundreds of students in NVCC history classes seen the exhibits, but our schedule last year included visiting nine elementary schools, several public libraries in Fairfax County, a nursing home, Fairfax Days at George Mason University, Manassas Park and Fairfax City on July 4th, and Americana Week festivities at NVCC in Annandale. Our attendance figures in the van for 1984 were approximately 5100 people. In 1983 the figure was 2100. The library museum figures are more difficult to judge since there is no official attendant keeping records. The enrollment at the Annandale Campus has fluctuated between 9,000 and 12,000 students over the past several years, a large percentage of whom use the library regularly and would have access to the Civil War Museum there.

The Museum has been well received in schools, libraries, and community events both on and off campus, as several letters of testimony acclaim. Our plans are to increase our outreach into the community representing the college in an unusual manner, providing an educational service to the College and public alike.

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A SEMI-SELF-PACED COURSE IN GENERAL PSYCHOLOGY

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ABSTRACT

Three advantages of self-study were identified, (1) allowance for individual differences in ability, (2) accommodation of confining schedules and physical limitations, and (3) immediate feedback from course materials and via telephone from the instructor. However, the disadvantage of the need for self-discipline was recognized. An attempt was made to utilize the advantages while overcoming the disadvantage.

A psychology course was offered that required attendance at a one-hour weekly session. The additional two hours were replaced by assignments in a self-paced workbook, PSYCHPATH. Assignments were to be completed in preparation for each weekly meeting and the instructor was available by phone.

Both faculty evaluations and student evaluations ranked the course as excellent. Student retention was slightly higher than in traditional courses. Test scores for students in this course were slightly (but not significantly) higher than those of students in traditional sections.

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COMPUTERS ACROSS THE CURRICULUM

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ABSTRACT

The program, as indicated by the title of the project, involved several curriculum areas including the following course areas: Government, Data Processing, Nursing, Chemistry, Biology, Physics, Math, Economics, English, Guidance, Accounting, Business Management, Electricity, Drafting, and Secretarial Science.

The project essentially advanced a model by which to (1) acquire material and hardware supportive of developing computer-based teaching strategies, (2) to provide for the simultaneous training and professional development of subject-area experts (faculty) and support staff (Learning Resource personnel), and to award "mini-grant" for released time to develop or acquire specific materials to be used as courseware in various courses.

The program was (and is) extremely successful, establishing both the expertise and resources to initiate instructional development activities in a computer-based format. The evaluation team for the project noted the wide faculty participation and the solid development of a support network as the keys to success of the project.

Several statewide presentations of the project were made, including those made at the Virginia Community College Association Annual Convention, the in-service programs for Mountain Empire Community College, Southwest Virginia Community College,

Wytheville Community College and Virginia Highlands Community College, and the Western Regional Consortium Workshop on Instructional Technologies.

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LEARNING BY DOING: THE SCIENTIFIC METHOD

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ABSTRACT

The first week of any general biology course usually includes a section on the scientific method of thinking. The method is usually taught in a lecture format as a series of rather standard steps such as (1) identification of a problem; (2) formulation of a hypothesis or hypotheses; (3) testing the hypothesis(es); (4) accepting or rejecting the hypothesis; and (5) replications of the experiment. The objective of my project was to determine if I could help the students understand through an example problem, how the scientific method itself is useful not only to scientists but to the general public as well. Whenever a person analyzes possible solutions to a problem and systematically tests each until one seems to be the best possible solution under the present circumstances, he is using the scientific method of reasoning.

During the first week of classes, I present each student with a stated problem on a half sheet of paper. This problem is given below:

> There are 2 ping pong balls in each of 3 styrofoam cups. One cup has 2 black ping pong balls in it, one has 2 white ping pong balls, and one has 1 black and 1 white ball. Each cup has a lid; one is labelled BB (black-black), one is labelled BW (black-white) and one is labelled WW (white-white). All 3 lids are incorrectly placed on the cups--they do not give the true contents of the cup. The contents of these three cups can be identified, however, without looking inside. You may remove the lid (without looking inside) and draw ping pong balls one at a time from any of the cups. What is the minimum number of draws that you must make to correctly identify the contents of all 3 cups?

The students are asked to work on the problem until the next class period when they will be asked to present and defend their solution to the problem. The steps in the scientific method have already been discussed in lecture but its applicability to this problem is never mentioned. Great care is taken to avoid using the words "hypothesis," "test" or "experiment" when discussing the problem at this stage.

The students use deductive logic to create a list of hypotheses to test. Most students can narrow the minimum number of draws to 2 from one cup and then the contents of the remaining 2 cups are determined by elimination. By this time, a few astute students have determined that the contents can be identified with only ONE draw from BW cup. Obviously the BW cup doesn't contain a black-white combination (the lid is incorrect) so it must be either white-white or black-black. Thus only 1 draw is necessary to identify both balls. With the contents of the BW cup identified, the contents of the other 2 cups can be determined by elimination. Details of the logic and procedure followed in solving the problem are given in the documentation.

After students present their solutions in class, I ask all of them if they know why I chose to give them this problem to solve seemingly "out of the blue." During the ensuing discussion,

different students contribute the observations that the problem was an example of scientific thinking--a problem was identified, its limits determined, and the number of draws, there is only one acceptable hypothesis. Also, the "experiment" was replicable, and untestable hypotheses (ESP for instance) could not be utilized.

Evaluation of the effectiveness of the technique in this project, as with many other teaching methods, is not easy. In terms of the number of students who actively participate in solving the problem and who correlate the problem to the scientific method, the project was definitely successful. It catches the students' imagination and is a different format than the typical lecture approach and is one that students will tend to remember.

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AN INDIVIDUALIZED "RESEARCH" APPROACH TO THE GENERAL CHEMISTRY LABORATORY

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ABSTRACT

This project was developed as the final laboratory experiment for College Chemistry 113 in an attempt to better introduce students to some of the processes involved in chemical research. Students were instructed; "starting with three grams of either copper, zinc or magnesium, prepare a series of five compounds (A B C D E) and prove their identity to the satisfaction of the instructor."

Students were required to submit a detailed research-type proposal for the synthesis and identification of their chosen sequence of compounds. This involved considerable library research, serving to introduce the student to the chemical literature. This proposal was checked for reasonable safety risk. The students were not told whether or not the proposal was workable. After the research proposal was approved, the students performed the indicated synthesis and analysis. Upon completion of the synthesis and analysis, the students prepared a final report written in scientific journal format.

This experiment was performed by all Chemistry 113 students at Germanna Community College during the period 1978 to 1984. During this time, students expressed beliefs that they better understood the process of chemical research and found the experience challenging and generally enjoyable. It proved to be a valuable means to introduce students to "real world" chemical research rather than cookbook style laboratories.

At the beginning of this time frame, enrollments in Chemistry 113 averaged approximately 12 students per laboratory period. Over the indicated time, enrollments grew to approximately 20 students per laboratory section. It was found that this experiment is best suited for low enrollment sections. The major problem is safety! It was very difficult to safely supervise more than about 10 students, each of whom were performing a different series of experiments, many times using highly corrosive or flammable

materials. The student-teacher ratio should probably not exceed 10-12 for proper supervision and safety. With this restriction, this experiment was found to be very successful in accomplishing its stated objectives.

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MODIFICATION OF QUALITATIVE CATION ANALYSIS EXPERIMENTS IN COLLEGE CHEMISTRY III, CHEMISTRY 113

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ABSTRACT

In an effort to promote the development of analytical thinking and problem solving skills, the Systematic Qualitative Cation Analysis protocol was modified to allow students the freedom to devise their own analytical procedures for a group of selected cations. This experiment was performed as a part of the Chemistry 113, College Chemistry III, laboratory after the students completed an anion analysis experiment using standard analytical methods.

The students were directed, in part, to "develop a procedure by which you can identify any of the following cations in a sample of an unknown compound: Na(+1), K(+1), NH4(+1), Ca(+2), Ba(+2), Sr(+2), Mg(+2), Fe(+3), Cu(+2), Al(+3), Ag(+1), Zn(+2)." The students were given an introductory lecture covering use of the chemical literature, including the Systematic Cation Analysis Scheme; various methods of gathering solubility and reactivity data; physico-chemical methods of analysis, including flame tests and visible line spectra; a general format of an analytical procedure flowchart.

This experiment proved to be very challenging to most students. By using a combination of methods including tests derived from literature sources, flame tests, visible line spectra, and wet chemical tests the students developed analytical procedures, outlines in their flowcharts, by which they were able to successfully identify any of the required cations. Several students needed guidance in formalizing their flowcharts, especially as regards the necessity of positive identification of cations.

This experiment was successful in that students better understood the logic involved in chemical analysis. They were more personally involved in the experiment by having to develop their own individual analytical procedures rather then "cookbooking" the experiment from a given protocol.

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COMPUTERS IN THE TECHNICAL WRITING CLASS

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ABSTRACT

"Computers in the Technical Writing Class" describes a method of teaching statistical reporting and graphics units in English 137, Technical Writing, using computer generated data for individualized assignments.

The following preparations were made: (1) data base formats and statistics were supplied by faculty; (2) student volunteers in the class wrote the computer programs and ran copies; (3) English teacher wrote assignments based on needs of person who supplied the problem/data; and (4) class spent one session critiquing graphics in testbooks and magazines such as *Business Week* and other periodicals in their field. Students completed handouts and compiled a list of rules for constructing graphics.

The activities of the class include the following steps: instructor hands out individualized data sheets and assignment sheets; students complete individual lessons during class; instructor keeps all work between classes; after students master individual lessons, more complicated lessons requiring math calculations can be assigned to small groups (committees); and a student who has trouble mastering the work may request as many extra practice lessons as needed.

Evaluation of the class includes peer editing of graphics in two phases: Phase one - a graphic from each student is put on transparency for editing by whole class, and phase two - peer editing groups of three students exchange papers and edit graphics units of their group. Students correct and revise units to submit for grade. Finally, students and faculty member evaluate unit for scoring on Graphics Grading Sheet.

Results of the study show that student scores are higher in the class that was taught by the new method than they are in the class receiving traditional textbook instruction. The class using the new method completed the unit in two weeks while the other class required an extra week of work. The class using the new method found it difficult to "cheat" on the work; they liked the idea of being able to try as many assignments as they needed; and they felt that the new method helped them to learn the basics of graphics as they responded in critiques of the unit. While the method may take more instructor preparation time than "packaged" assignments in a textbook, the resulting student learning may be worth the extra effort.

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TEACHING TECHNICAL WRITING TECHNIQUES SEQUENTIALLY

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ABSTRACT

"Teaching Technical Writing Techniques Sequentially" by use of purchase request and justification assignments was developed for Technical Writing 137, a third quarter English course designed primarily for electronics, drafting and design, pre-engineering and nursing and business related majors who have successfully completed two quarters of general college transfer freshman composition.

Evaluations, which include peer editing, faculty grading, follow-up of students and their employers, and instructor observation of performance *show that this method* improves student performance on both on-the-job and in-class writing assignments, improves student awareness of the writing process, and cuts time spent learning/revising by providing extra practice on certain "repeated" skills until student gains confidence and proficiency.

This method includes the following sequential steps: (1) Planning and problem solving; (2) Topic selection; (3) Audience Analysis; (4) Data-gathering/research; (5) Sequenced exercises for pre-writing and practice which included define, describe physical appearance, describe inner specifications, describe operations--process procedures, analyze other factors to consider for purchase, summarize specification for purchase request form, and justify the need(s) on mini-proposal/covering memo; (6) The written purchase request sequence; (7) Blank form/graphic for purchase request; (8) The mini-proposal of justification for purchase; and, (9) Evaluations which included peer editing, critiques, grade sheets, and follow-ups on job. Detailed descriptions of materials and methods for each step are included in the appendix of this report. The appendix includes a sample of some of the materials/methods that may be used in teaching the writing sequence described in this method:

I. Purchase Request and Justification Assignment Sheet
II. Letter from a company describing their problems with written requests.
III. Planning through Research steps of method
IV. Pre-Writing and Writing Sequenced Steps
V. Descriptive writing assignments and exercises with examples
VI. Blank-form for Purchase request with examples
VII. Mini-proposal/Justification
VIII. Evaluation summary

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EXTENDED LEARNING INSTITUTE MASTERY INSTRUCTIONAL SYSTEM IN GENERAL PSYCHOLOGY

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ABSTRACT

An innovative, effective and flexible instructional system was designed to teach General Psychology (PSYCH 201-202-203) in the Extended Learning Institute (ELI) at J.T.C.C. The system was designed so that any qualified psychology teacher can teach or adopt it.

Building upon work already done in the V.C.C.S. and available in the public domain or used by permission, I developed an effective instructional system which would meet the requirements for an E.L.I. course and still ensure that quality instruction and learning was taking place. This flexible system offers individualized instruction. It incorporates the mastery learning concept. It is also designed in such a way that E.L.I. personnel can easily administer it.

The course uses Dennis Coon's *Introduction to Psychology: Exploration and Application* (3rd Ed.: West Publ.) as the basic textbook (others could be used). Tom Bond's *Mastery Study Guide* is used as the student workbook and a major teaching/learning tool. (Tom is from T.N.C.C. and inspired me with his use of the mastery level [P.S.I.] concept in his *classroom*. He generously shared some of his materials and methods with me).

When the student enrolls, he receives a "Student Course Packet" which describes the system for the student (I use some of the format of an early N.V.C.C. E.L.I. general psychology course packet). Much of the on-going testing, videotape scheduling, objective test scoring and record keeping is done by competent resource people at the E.L.I. office. The student grade sheet (which allows easy tracking of performance) and all papers are kept in the student's file at the E.L.I. office.

A testing system is set up where a student demonstrates his mastery of a chapter by successfully passing a chapter test (13+ of 15 questions). If he doesn't pass, he restudies and later retests (up to 3 times). When the student is ready for a unit test (50 questions), he sets up an appointment with the E.L.I. office. At the end of the course, he takes a final exam (50 questions). The grade is the average of the 3 unit and final exams. Several forms of each test are kept in the E.L.I. office. During the course, the student also views and analyzes 3 or 4 videotapes. Telephone or in person conferences with the teacher are held as needed or desired.

The instructional system has successfully been in use since January 1982, has undergone one major and several minor revisions. It has served several hundred students and area residents who otherwise might not have been able to be served by our College. We do not try to compete with or eliminate the classroom but to offer a quality alternative for those who need or choose it. The teacher is freed from much of the day-to-day testing and record keeping requirements in order to give more time in individualized attention to students.

The grading curve is bimodal which is typical for this type of instruction. The majority of the students who successfully complete the course do so with well earned grades of "A" or "B."

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BLOOD PRESSURE RUMMY

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ABSTRACT

This strategy was developed for Natural Science (NASC) 112-Health Science III (Human Anatomy and Physiology II).

One of the most difficult challenges to teachers of human anatomy and physiology is helping students to understand the ways in which the various body systems interact simultaneously to maintain homeostasis. In the course sequence that I teach at PVCC, for instance, we cover physiological systems individually in NASC 111 (bone, muscle, nervous system, senses, and respiration) and in NASC 112 (circulation, digestion, urinary system, electrolyte and acid-base balance; the remaining hormones and reproduction are covered in NASC 113). Using this division of information students may come to appreciate the individual responses of the body to change, but miss the larger picture of how the systems interact to maintain stability and how the interactions themselves produce a new set of alterations with which the body must deal. Indeed, allied health students will be dealing in their work with whole living humans and should, therefore, be able to understand, and at times, predict whole body physiologic responses to internal change.

I call the technique "Blood Pressure Rummy" because we use a deck of term cards. I begin the exercise by drawing at random seven term cards from the deck myself in front of the class, and after posting the terms on the black-board, we re-arrange them into a logical order. Each card has printed on it an anatomic or physiologic term from any of the body systems that we've covered so far in class. Each term is in some way related to blood pressure control. We then declare either an existing low blood pressure situation (hypotension) or a high blood pressure situation (hypertension). We then rearrange the seven terms together into sets of terms that describe the body's responses to the declared blood pressure imbalance. If we choose hypotension as the existing condition, then we explain, using the seven ordered terms, how the body elevates blood pressure back to normal levels, if hypertension, then how the body reduces this high pressure.

Students then move into groups of four or five and play the game within their groups. Each student is dealt seven cards, arranges them into logical sequences, and describes the role of each card in correcting the declared imbalance. The other students in each group act as helpers to get the player to see the interrelationships among the term cards. Having used all seven terms accurately, each player is then asked to outline other physiologic changes that are a result of this set of responses.

My comments on the techniques effectiveness are qualitative. The success rate in passing this part of the exam is about 85%. I find this figure to be gratifying given the integrative thinking required to complete the exercise successfully. Student evaluations from this quarter very often point out this exercise as a highlight of the term and many students recommend using similar exercises in NASC 111. Students also say on their evaluations that they enjoy assuming the role of guide, once they feel comfortable in helping other students.

From a teacher's point of view, I have found that students move somewhat slowly from linear to simultaneous thinking patterns, and it takes about a week to repeat the exercises enough times that that change in perspective becomes obvious.

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BIOLOGY PROJECTS FOR OUTSIDE THE CLASSROOM ACTIVITIES

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ABSTRACT

This abstract deals with the current status of the outside the classroom projects that have been collected and developed for an introductory college biology course (BIOL 101-103) at Piedmont Virginia Community College.

The current introductory course consists of a one-year sequence of three quarters of ten weeks each. Each student has three hours of lecture and three hours of lab per week with projects being completed outside of the times noted above. Each student is required to complete a minimum of 50 project points per quarter and work up to the maximum 100 project points per quarter that will result in an increase in the lecture exam score. Failure to complete the projects (less than 1% of the students in five years) results in the final grade being lowered. The requirement for the project points and how they affect the course grade is listed on the first page of the course outline.

A brief description of the projects is provided to each student which includes the needed information to be turned in once the student has completed the projects. Pages II-III of the appendix are brief project descriptions. Each quarter, three or more additional project descriptions are added to the original list and most of the projects are repeated each quarter.

Information is provided to the student concerning the organization of the completed projects and the grading of the projects (see page IV of the appendix). A copy of the cover sheet used by the student to indicate project points attempted is provided to each student (see page V of the appendix). For students who feel they need more information than is given on the brief project descriptions, they may see the instructor and/or consult an expanded description of the projects on reserve in the learning resource center. Expanded descriptions of the projects start with page VI of the appendix.

The students may pick their projects and a point value up to the maximum listed for a given project. Students are encouraged to pick those areas for projects they have an interest in and can get any needed help form. If one or more of the projects has been done in previous classes, students are encouraged to expand on the listed project or to choose another project. Students may also design their own projects and several do so each year with a point value being agreed on before the project is completed. A few projects may be worked on as a group (as in the collecting of leaves), but each project is to be completed and written up by each student. The freedom to choose the projects and the time in which to do the project appears to fit the situation for the diverse group of students common to the community college. The instructor feels the general biology experience has clearly been expanded for the students.

Each year during the last of the second quarter, the students have a course evaluation period which covers the course and instructor. The projects have consistently been rated positively by over 95% of the students each year on the evaluation. Additional positive feedback on the projects comes each year from former students who tell the instructor some way they have used the knowledge gained from the projects after the course has ended. The current plan is to continue the projects as a part of the course with annual review for improvement and project additions.

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EXPLICITLY STRUCTURED PHYSICS INSTRUCTION

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ABSTRACT

In an introductory physics course, problem solving skills are not traditionally taught. The instructor explains the physical theory and works example problems. Many students, however, are not able to develop the ability to solve problems implicitly.

The program of Explicitly Structured Physics Instruction (ESPI) was developed to teach problem solving skills explicitly. It is designed to help students organize their work, increase their accuracy, eliminate initial panic or lack of direction in approaching a problem, increase confidence in problem solving, promote understanding instead of rote memory, and improve the students' ability to communicate with the instructor and other students. It provides not only an explicit strategy for problem solving, but also a structure for examining formulas called the formula fact sheet, and an opportunity for practice and feedback in a problem solving session which involves the use of out loud thinking.

The program of ESPI was developed over five academic quarters of testing. A statistical analysis was performed on the data obtained, but the qualitative data obtained from student interviews and questionnaires, as well as the instructor reaction to the program, provided the main source of input in the development of the program and the measurement of its success.

Reaction to the program in its final revised form was very positive. Over 90% said that they would use the strategy even if it were not required, and that the formula fact sheet had been very helpful. Over 75% said that the problem solving session was very helpful. Final grades of those who used the strategy were significantly higher than those who did not. Retention of students in the course was raised from 70% to 86%.

The study indicates that a well integrated program built around the use of a problem solving strategy can help students focus on understanding physics and the problem solving process.

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LIBERAL ARTS SKILLS FOR TECHNICAL WRITING

Bonnie V. Wynn
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ABSTRACT

The overall objective of this project was to introduce liberal learning concepts and life-related skills into the existing technical writing course (English 137). This course had already been modified to stress the kinds of writing situations the students are likely to encounter in the world of work.

The overall objective was achieved through the design and development of five independent modules. Each module was developed to be

completed by the student on an individualized basis. The five modules and their basic descriptions are as follows:

Information retrieval/library research. Students are given an introduction to basic reference/research tools typically found in libraries; instruction on the basic strategies for information gatherings; the logic of broadening or narrowing a subject search; and advice concerning how to translate these skills and techniques from college writing assignments to job-related reports, product evaluations, and consumer decision making.

Life planning/career development. Students are shown the need for assessment of life goals, how to develop a personalized interest inventory, and how to incorporate those interests in career decisions. Strategies for finding jobs beyond the "Want Ads" are discussed, and students are encouraged to explore alternative pathways to gainful employment.

Graphic arts in written communication. Students are given an introduction to the aesthetics of written communications, and they are shown how simple pictures, graphs, and charts can be used to complement the written word and enhance business communications.

Editing for clarity and precision. Students are given an introduction to the process of editing and its purpose. A systematic approach for making technical writing more readable is stressed.

Computer literacy. Students are introduced to computers and are given an opportunity to sharpen their writing skills with a simple computer-assisted editing program.

For the development of each module a three-member team was formed. Each team consisted of an English teacher (myself), an instructional design specialist, and a content expert. Each project team for each module established specific learning objectives, identified appropriate instructional methods to achieve those objectives, created or purchased audiovisual software and reference materials to support those methods, identified the expected outcomes of the module, and finally put it all together as an independent learning package. The five independent learning modules are coordinated through a student manual which provides an introduction to the entire project and operational specifics for the modules.

The project was field tested with students and reviewed by faculty during the fall 1984 and winter 1985 quarters. Each of the five modules was evaluated individually, as was the overall method of instruction. Although modifications to specific objectives were required based on student feedback, the evaluations were all positive, and the comments encouraging. In fact, one student stated that because of the assignment in the life planning/career development module, which required him to conduct a "mock" interview, he was offered a job two weeks later.

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CATALOG OF EXEMPLARY PROJECTS

1984-85
ADDENDUM

When the 1984-85 catalog of the Institute for Instructional Excellence went to press, not all abstracts of funded projects were available. Listed below are additional projects, listed by title and contact person.

Lee Anderson--"Medication Administration Clinical Simulation"
Piedmont Virginia Community College
Route 6, Box 1A
Charlottesville, VA 22901
804-977-3900

Jill Brantley--"The Repetition of Questions: A Strategy for Teaching American Literature"
Northern Virginia Community College
Loudoun Campus
1000 Byrd Highway
Sterling, VA 22170
703-323-3000

Anita Cook--"Effective and Guided Journal Use in a Beginning Level English as a Second Language Course"
Tidewater Community College
Virginia Beach Campus
1700 College Crescent
Virginia Beach, VA 23456
804-427-7286

Debbie Costigan--"Simulation Activities in Human Behavior Classes (HMSV: 223)"
Tidewater Community College
Virginia Beach Campus
1700 College Crescent
Virginia Beach, VA 23456
804-427-3070

Max Couchman--"Genetics and the Fruit Fly in General Biology 103"
Blue Ridge Community College
Post Office Box 80
Weyers Cave, VA 24486
703-234-9261

Charles Garratt & Steve Hobbs--"Use of the Microcomputer in the Classroom as a Teaching Aid"
New River Community College
Drawer 1127
Dublin, VA 24084
703-674-4121

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Clifford Haury—"Legends and Myths in American History Examined in Context of Taproot Themes"
Piedmont Virginia Community College
Route 6, Box 1A
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804-977-3900

Eric Hibbison—"Study Skills for the Visually Handicapped: English 119"
J. Sargeant Reynolds Community College
Parham Road Campus
P.O. Box 12084
Richmond, VA 23241
804-264-3046

Pat Johnson & Hugh Rooney--"Reading and Study Skills in a General Biology 101 Course"
J. Sargeant Reynolds Community College
P.O. Box 12084
Richmond, VA 23241
804-264-3049

Nancy Makin--"Marine Science at an Inland College: Marine Ecology 299"
Germanna Community College
Box 339
Locust Grove, VA 22508
703-399-1333

William Owen—"Techniques to Teach Comma Usage in English Composition Classes"
Piedmont Virginia Community College
Route 6, Box 1A
Charlottesville, VA 22901
804-977-3900

Robert Pickett--"BASIC Language Computer Programming in Engineering 105"
Piedmont Virginia Community College
Route 6, Box 1A
Charlottesville, VA 22901
804-977-3900

Bettye Walsh--"Visually Orientated, Idea-word Building for English 01"
Piedmont Virginia Community College
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Ivy Waters--"On-site Child Study Laboratory During Summer Sessions"
Piedmont Virginia Community College
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804-977-3900

Kathleen Carter--"Making History Meaningful: Oral History as a Teaching/Learning Device"
Paul D. Camp Community College
Post Office Box 737
Franklin, VA 23851
804-562-2171

Corinne L. Conlon--"Student Health-maintenance Plan in Nursing"
Piedmont Virginia Community College
Route 6, Box 1A
Charlottesville, VA 22901
804-977-3900

Larry Richman--"Student Observations and Peer Critique in English 111"
Virginia Highlands Community College
Post Office Box 828
Abingdon, VA 24210
703-628-6094

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